

3

EXTRACTS

FROM

THE FIRST REPORT OF THE INSTITUTION
ON
THE ABENDBERG,

NEAR INTERLACHEN, SWITZERLAND;

FOR

THE CURE OF CRETINS.

BY

DR. GUGGENBÜHL.

TRANSLATED BY W. TWINING, M.D.,

LATE OF BALLIOL COLLEGE, OXFORD.

11

and the *lateral* (lateral to the direction of the main current) shear stress, τ_{xy} , are given by the equations

$$\tau_{xz} = \rho g H \sin \theta \cos \theta \quad (1)$$

$$\tau_{xy} = \rho g H \sin^2 \theta \quad (2)$$

where θ is the angle between the direction of the main current and the direction of the shear stress.

It is evident that the shear stress is proportional to the angle θ and that the maximum shear stress occurs when $\theta = 90^\circ$.

It is also evident that the shear stress is proportional to the height of the water column, H , and that the maximum shear stress occurs when H is a maximum.

It is also evident that the shear stress is proportional to the density of the water, ρ , and that the maximum shear stress occurs when ρ is a maximum.

It is also evident that the shear stress is proportional to the acceleration due to gravity, g , and that the maximum shear stress occurs when g is a maximum.

It is also evident that the shear stress is proportional to the angle of the current, θ , and that the maximum shear stress occurs when $\theta = 90^\circ$.

It is also evident that the shear stress is proportional to the height of the water column, H , and that the maximum shear stress occurs when H is a maximum.

It is also evident that the shear stress is proportional to the density of the water, ρ , and that the maximum shear stress occurs when ρ is a maximum.

It is also evident that the shear stress is proportional to the acceleration due to gravity, g , and that the maximum shear stress occurs when g is a maximum.

It is also evident that the shear stress is proportional to the angle of the current, θ , and that the maximum shear stress occurs when $\theta = 90^\circ$.

It is also evident that the shear stress is proportional to the height of the water column, H , and that the maximum shear stress occurs when H is a maximum.

It is also evident that the shear stress is proportional to the density of the water, ρ , and that the maximum shear stress occurs when ρ is a maximum.

It is also evident that the shear stress is proportional to the acceleration due to gravity, g , and that the maximum shear stress occurs when g is a maximum.

PREFACE.

THE Hospital for the cure of Cretin children, on the Abendberg, Switzerland, has already been made a subject of interest in England. The sum of 204*l.* 8*s.* has been collected for it, which, added to the assistance obtained from Holland and other countries, has enabled Dr. Guggenbühl to enlarge the building sufficiently to contain sixty patients; but funds are still wanting for the maintenance of the full number. At present twenty-five children are under the care of Dr. Guggenbühl, who has been perfectly successful in several cases, as the Extracts from his First Report prove.

It is not necessary to repeat any account of the establishment, or of the disease, as that is given in my Pamphlet on *Cretinism, and the Institution for its Cure, on the Abendberg*, published 1843. Parker, London.

Dr. Guggenbühl has now an assistant in the laborious task of teaching the Cretin children, and

has also two Sisters of Charity from the Protestant establishment at Lausanne to attend them.

It is thought that the following Cases will be interesting to those who have so generously contributed to the building fund of the Hospital. It is also due to Dr. Guggenbühl to make known the continued success of his devoted attention to the unfortunate Cretins.

Should the knowledge of the great benefits thus effected excite any further benevolence towards the support of the Institution, the money will be duly forwarded, as before, by Messrs. TWINING, 215, Strand, London.

W. TWINING.

13, BEDFORD PLACE,
April, 1845.

CASES

FROM THE FIRST REPORT OF THE ABENDBERG
INSTITUTION.

CLAUDINE S. is one of a family in which the children thrive perfectly both in body and intellect, for the first years of their life. But during the period of teething, they fall a prey to Cretinism. In the case of this child, it was in the second year of her age that her mother first remarked that her hitherto steady steps were beginning to falter. A few months afterwards her limbs became still weaker, and she could no longer stand firmly. Her liveliness abated, she took no pleasure in play, but sat gloomily in the corner of the room without even speaking. On examining the different parts of her body, almost every joint was found to be affected; some enlarged, and very tender. The lower portion of the spine was painful; the extremities of the limbs showed signs of deformity; as well as the head. The countenance of Claudine was, however, still blooming, which often conceals the dreadful approach of Cretinism. The stomach was much distended; a violent thirst distressed her at night, and the perspirations were extreme. In this state the poor child was brought to the Abendberg, at the

age of three years; a miserable cripple, and without mental perceptions. Her nervous system was at this time so torpid, that the strongest applications of the magnetic electrical apparatus made no impression upon her. About six months afterwards, when she was in some measure restored, a very slight application of this agent was sufficient to cause violent crying. In the course of a year the joints and muscles were so much improved that the little patient was able to walk and run perfectly. After long and unwearied care an entire change took place. Her mind acquired its full power; she learnt to speak, not only in French, her native tongue, but also in German. This child, who would inevitably have gone on in deformity of growth and development, till she had sunk into a complete Cretin, is now so far advanced in her recovery, as to be able to attend the school. Torpid idleness, running, want of cleanliness, greediness, all the bad dispositions have vanished. She is become strong and healthy, active in all her motions, cheerful, amiable, and industrious. She has a good memory and capacity for learning, has already begun to read and write, and is particularly delighted with singing. She has also been taught to sew and knit. When her mother came to see her she wept for joy, and told me how her eldest son had been attacked with precisely the same symptoms as those of his sister Claudine, and was now a miserable Cretin.

Marie Louise G., of Sion in the Valais, was brought to the Abendberg at the age of four years. Though born very small, she continued to grow well during the first two years. But in the summer of 1842 her parents observed that she was becoming weak; and by the autumn she could not walk or stand, and even ceased to speak. Her mother feared she would be a Cretin, and instead of considering such a child a peculiar blessing, as is generally the case in the Valais, she dreaded it as the greatest of evils, and brought the child to the Abendberg to be cured, if possible. At first it was so painful to her to stand for a few minutes, that it made her cry. She had fine clear blue eyes and a pleasing expression of face; but the form of the head indicated signs of approaching Cretinism. The teeth were fewer than usual at her age, the muscles were powerless, and the body swollen. In this little girl the manner of development of Cretin children was remarkably apparent. It does not take place constantly or gradually, but is accomplished at different times, suddenly and partially. The bodily development proceeded rather quickly; at the end of a year she was able to walk. Greater difficulties occurred in the mental progress. For some time all attempts at teaching caused her to cry; suddenly, as if by magic, the powers of speech were developed. When I went after a year and a half to Sion, I found the little girl at play in the road, much advanced in bodily growth, as well as in mind. She attended

the school, and was amongst the most forward of her age.

There are whole districts in Switzerland, as well as throughout the entire region of the Alps, which languish under the burden of unfavourable soil and climate to such a degree that the population is more or less afflicted with Cretinism. The boy F., of whom we will now speak, belongs to one of those miserable families, in which every degree and form of the evil may be observed. F. is the youngest of seven Cretin children; very soon after birth his head appeared unusually large, and of a pear-shaped form. His body was of full size, but the extremities were small and weak; he could not walk or speak till he was three years old. When he came to the Abendberg he was six, and had even then very little power of speech. He was shy, unsociable amongst his companions; nothing seemed to make any sensible impression upon him. Neither joy nor sorrow, pleasure nor pain, roused him from his mechanical state of existence. No emotion appeared on his lead-coloured countenance; the muscles were powerless, the extremities incapable of performing their proper functions, and the head was extremely large. He remained silent during the lessons of the other children, was very inattentive, and took no interest in trying to learn. After a time the muscles acquired strength, and the face a fresher tint; some signs of dawning intellect appeared, as if waking out

of a magnetic sleep. One day, when the setting sun gilded the sky most brilliantly, the attention of all the children in the Institution was attracted to the splendid sight. Admiration and astonishment were visible in all of them; even little F. called out suddenly, "The Sun!" The strong chain that bound the mind was thus broken; by means of speech he could now communicate with those around him. Yet the power of observation was still very limited; he could not distinguish between the different parts of objects; for example, he did not know the fingers from the hand. Memory seemed almost wholly to be wanting; it required incredible patience in this first period of instruction. To instil knowledge by means of visible objects is the best method of awakening a dormant mind. After three months of exertion, the capacities of F. began to be developed; his knowledge of things increased, his mind gradually strengthened. An attempt was next made to teach him the method of reckoning in the head, to prepare the way for arithmetic by figures. It is a remarkable circumstance that Cretins show great aptitude for this branch of learning. He now began to advance in reading very satisfactorily; but, like most Cretins, made very slow progress with writing: for music he showed much inclination. After a time our efforts were so successful, that F. was enabled to surpass many of his healthy contemporaries in knowledge and capability of learning.

M. is a little girl whose parents and brothers and sisters are perfectly healthy. Here, therefore, we must seek for the cause of Cretinism before birth; and there are many cases which have evidently been produced by some accidental causes not suspected of such an effect. These causes are, the use of spirituous drink by the mother, fright, or grief during the period before the birth of the child. Thus it often happens that in a family, one child will be born perfectly healthy, another a Cretin, and another come into the world with a tendency to scrofula, according as the physical or moral state of the mother may have differed. For the first year of her life M. was in good health; then the usual growth began to stop. She was brought to the Abendberg in a half-paralysed state, could not hold up her head, nor move her limbs. The face was colourless, the skin always cool, the muscles very weak, the stomach swollen, and several joints deformed. It required a whole year to give life and motion to this miserable creature. In that time she became strong, learnt to walk and to feed herself, and to take notice of objects around her. An attentive observation of this child showed how much difference there exists in the physical life of Cretins, and also that very peculiar qualities prevail in their intellectual life. It was clearly seen here how deep seated and how closely united are the laws which regulate the manifold changes of mind and body. The state of the nerves and the uncertain temper improved with the

strengthening of her bodily powers and health. The deep night which darkened her mind gradually yielded to the dawning light, as the powers of speeeh were acquired. In her third year she attained correct ideas of right and wrong. It is a remarkable faet that the circumferenee of her head increased three-quarters of an ineh yearly, whieh proves that the development of the brain may be aided by favourable influences. M. was dismissed from the Institution lately in a very satisfactory state of restored health.

E. was a little girl of only six monthis, when taken into the Institution. For the first month of her life she appeared to be healthy, though weak. Then a distressing eough came on, which left her after a short time, but had eauseed a erisis in her development. The mother is perfectly healthy and well formed, as well as the father. The state of the child was truly dreadful; the bodily organization was that of a stunted withered skelcton, covered with a livid, wrinkled, eold skin. Where there were some traces of muscles, elasticity was wanting; the extremities were very small, the countenance deadly pale, the cheeks and forehcad wrinkled, the eyes small and dark, and the whole expression of the face that of an old woman. In the spring, when fine weathcr adds to the favourable effeet of the pure mountain air in the eure of these miserable chilidren,

she was brought to the Abendberg. The natural advantages of the situation were aided by the most careful medical treatment and diet. Although this poor creature had been gradually becoming more dwarf-like and deformed ever since her birth, she now advanced rapidly towards perfect development. Three months worked a visible improvement; the muscles strengthened with her growth, the skin became elastic, and attained the usual degree of warmth. The wrinkles of the face vanished, the old-woman expression disappeared, and the pleasing traces of youth became apparent. In a short time E. was a restored creature, having undergone a perfect metamorphosis, during this first spring. From the state of a mere puppet, she had entered on an existence of free and perfect development. This case proves how much may be done by careful treatment during the earliest years of life, which is the most favourable period for the attempt.

The following case, in which the aim of the Institution to cure and educate Cretins for useful members of society was fully attained, was very remarkable. The Cretin was of a peculiar kind; his parents were Germans, having settled in the canton Valais, where nearly all the children are liable to Cretinism. It reminds us of the remark of Humboldt, who says, that settlers in the tropics are more affected by the yellow fever than the natives are.

This boy A. was born with every sign of the malady, and was three years old before he could either stand or speak. About this time he was brought to the Abendberg. Although not deficient in growth, and but little affected in bodily form, he was very weak in the use of his limbs; could not run quickly, and was so fearful and helpless in gymnastic exercises, that even the weakest of his companions surpassed him. Every exertion of the strength or muscles caused him to cry. A sad gloomy melancholy had taken possession of his whole being, a smile was seldom seen on his countenance, and he often made most horrible grimaces. The large flat pear-shaped head was not favourable to the functions of the brain. However, after some weeks' residence on the Abendberg, he became more cheerful, sociable, and friendly with his companions, and moved about with more ease and activity. The gymnastic exercises, which had at first made him cry, by degrees seemed to give him pleasure. Instead of the gloomy reserved manner of behaviour, he became joyous like other children, and by the end of a year mixed cheerfully with his associates. He took so much delight in learning, that after the daily lessons were over, he occupied himself diligently alone. He learnt to read with expression, to write, to add, and to subtract, and he even acquired some knowledge of natural history. In these respects he was soon further advanced than many healthy children of his age who went to school. His mind developed itself

most rapidly in aequiring some knowledge of the chief truths of religion. He was remarkably ready to assist in any little serviees, and in helping the weaker children; he also showed much love and gratitude to his teachers. Any duties entrusted to him he fulfilled with the most exact punctuality, and a sense of honour was very strong in him. Fully restored both in body and mind, and capable of performing all the duties of life, he returned into the soeiety of man.

DONATIONS ALREADY RECEIVED.

| | £ | s. | d. | | £ | s. | d. |
|--------------------------------|----|----|----|-------------------------------|-----|----|----|
| Hon. Mrs. Arnold, Lutterworth | 0 | 10 | 0 | Brought forward | 61 | 4 | 0 |
| By Rev. L. Audemars, Swiss | | | | John Hughes, Esq. | 1 | 0 | 0 |
| Church, London | 15 | 0 | 0 | James H. | 1 | 0 | 0 |
| Rev. T. Baker, Bow | 1 | 0 | 0 | Rev. Edward James, Canon of | | | |
| Mrs. Benson, Teddington | 1 | 0 | 0 | Winchester | 5 | 0 | 0 |
| Rev. Dr. Biber | 0 | 10 | 0 | ——— Third Donation | 5 | 0 | 0 |
| Rev. W. Boyd, Arncliffe | 0 | 10 | 0 | Rev. Dr. James, Canon of Pe- | | | |
| Mrs. W. Boyd | 0 | 10 | 0 | terborough | 2 | 2 | 0 |
| Dr. Borland | 1 | 1 | 0 | Rev. W. James, Cobham | 2 | 2 | 0 |
| W. Brewster, Esq. | 2 | 0 | 0 | W. King, Esq. | 5 | 0 | 0 |
| Miss Burchall | 1 | 0 | 0 | A Lady | 5 | 0 | 0 |
| Bruce Castle School | 1 | 0 | 0 | A Lady | 0 | 14 | 0 |
| Rev. J. M. Chapman | 1 | 0 | 0 | Miss Leete | 2 | 0 | 0 |
| Col. Cock | 1 | 0 | 0 | Right Rev. Lord Bishop of | | | |
| Hon. Mr. Justice Coleridge | 5 | 0 | 0 | Litchfield | 5 | 0 | 0 |
| Rev. Dr. Cramer, Oxford | 1 | 0 | 0 | In memory of Louisa Emily, | | | |
| Professor Daubeny, Oxford | 1 | 0 | 0 | by her Father | 5 | 0 | 0 |
| Sir David Davies, M.D., K.C.H. | 2 | 2 | 0 | Rev. E. Marshall, Oxford | 1 | 0 | 0 |
| Alexis James Doxat, Esq. | 5 | 0 | 0 | R. Marshall, Esq., Alton | 1 | 0 | 0 |
| Rev. Francis Durnford, Eton | 1 | 0 | 0 | H. Merriman, Esq., Alton | 1 | 0 | 0 |
| Miss Freeman | 1 | 0 | 0 | Mrs. Mills, Lexden Park | 1 | 0 | 0 |
| A Friend | 2 | 0 | 0 | Miss Mills, ditto | 0 | 10 | 0 |
| A Friend | 1 | 0 | 0 | R. Mills, Esq. | 1 | 0 | 0 |
| A Friend | 0 | 10 | 0 | E. B. Mills, Esq. | 2 | 0 | 0 |
| Three Friends | 0 | 6 | 0 | J. E. Mills, Esq., Hampton | 1 | 0 | 0 |
| Rev. Dr. Gilly, Canon of Dur- | | | | Mrs. Mills | 1 | 0 | 0 |
| ham | 3 | 3 | 0 | Sir Alexander Morison | 1 | 1 | 0 |
| Dr. Greenhill, Oxford | 1 | 0 | 0 | Miss Morris | 0 | 5 | 0 |
| Mrs. W. R. Grove, Dawlish | 1 | 0 | 0 | Miss G. Morris | 0 | 5 | 0 |
| Rev. Dr. Hawtrey, Eton | 1 | 1 | 0 | Charles Mc Niven, Esq. | 2 | 2 | 0 |
| Admiral Hawker | 1 | 0 | 0 | J. R. Neume, Esq., Rushett | 1 | 0 | 0 |
| Ven. Archdeacon Hoare | 1 | 1 | 0 | Mrs. Newman | 1 | 0 | 0 |
| T. H. Holberton, Esq. | 1 | 0 | 0 | W. Newnham, Esq., Farnham | 1 | 1 | 0 |
| Robert Hudson, Esq. | 1 | 0 | 0 | James Paget, Esq. | 1 | 1 | 0 |
| Mrs. Hudson | 1 | 0 | 0 | Rev. J. Papillon, Lexden | 0 | 10 | 0 |
| Dr. Hue | 1 | 0 | 0 | Hon. Mr. Justice Patteson | 5 | 0 | 0 |
| Mrs. Hughes | 3 | 0 | 0 | Rev. James Powell, Bitteswell | 2 | 0 | 0 |
| Carried forward | 61 | 4 | 0 | Carried forward | 124 | 17 | 0 |

| | £ | s. | d. | | £ | s. | d. |
|---|-----|----|----|--|------|----|----|
| Brought forward | 124 | 17 | 0 | Brought forward | 173 | 15 | 0 |
| Miss Powell | 0 | 10 | 0 | Miss E. Twining, Third Donation | 0 | 10 | 0 |
| Profit on Pamphlets sold | 9 | 4 | 0 | Miss L. Twining | 1 | 0 | 0 |
| Hon. Mrs. Ramsay | 1 | 0 | 0 | _____, Second Donation | 1 | 0 | 0 |
| Henry Revell Reynolds, Esq.. | 3 | 0 | 0 | _____, Third Donation | 0 | 10 | 0 |
| Right Rev. Lord Bishop of Ripon | 5 | 0 | 0 | R. Twining, Esq., Jun. | 2 | 0 | 0 |
| Dr. Robertson | 0 | 5 | 0 | Aldr. Twining, Esq. | 1 | 0 | 0 |
| H. C. Robinson, Esq. | 5 | 0 | 0 | Dr. Twining | 5 | 0 | 0 |
| J. Scargill, Esq. | 1 | 0 | 0 | _____, Second Donation | 3 | 3 | 0 |
| H. Smart, Esq. | 1 | 0 | 0 | G. Twining, Esq., East Sheen | 2 | 0 | 0 |
| Right Rev. Lord Bishop of Sodor and Man | 2 | 2 | 0 | Mrs. G. Twining | 1 | 0 | 0 |
| D. Smart, Esq. | 1 | 0 | 0 | Rev. G. B. Twining | 1 | 0 | 0 |
| Small Subscriptions, Alton | 0 | 17 | 0 | Miss A. Twining | 0 | 10 | 0 |
| Dr. Tawke | 1 | 0 | 0 | S. H. Twining, Esq. | 1 | 0 | 0 |
| R. Twining, Esq., Bedford Place | 5 | 0 | 0 | W. B. Twining, Esq. | 1 | 0 | 0 |
| Mrs. Twining | 4 | 0 | 0 | Miss E. Twining, Clapham | 1 | 0 | 0 |
| Mrs. Ann Twining, Bitteswell | 5 | 0 | 0 | Mrs. Vandepnt | 1 | 0 | 0 |
| Miss Twining, Bedford Place | 1 | 10 | 0 | Ven. Archdeacon S. Wilberforce | 1 | 0 | 0 |
| _____, Second Donation | 0 | 10 | 0 | Mrs. Wandsbrough | 1 | 0 | 0 |
| Miss E. Twining | 1 | 0 | 0 | Rev. W. Wilson | 1 | 0 | 0 |
| _____, Second Donation | 1 | 0 | 0 | Right Rev. Lord Bishop of Winchester | 5 | 0 | 0 |
| Carried forward | 173 | 15 | 0 | Total | £204 | 8 | 0 |





